DoD Data Emporium/XML Registry

Status and Lessons-

UNCLASSIFIED

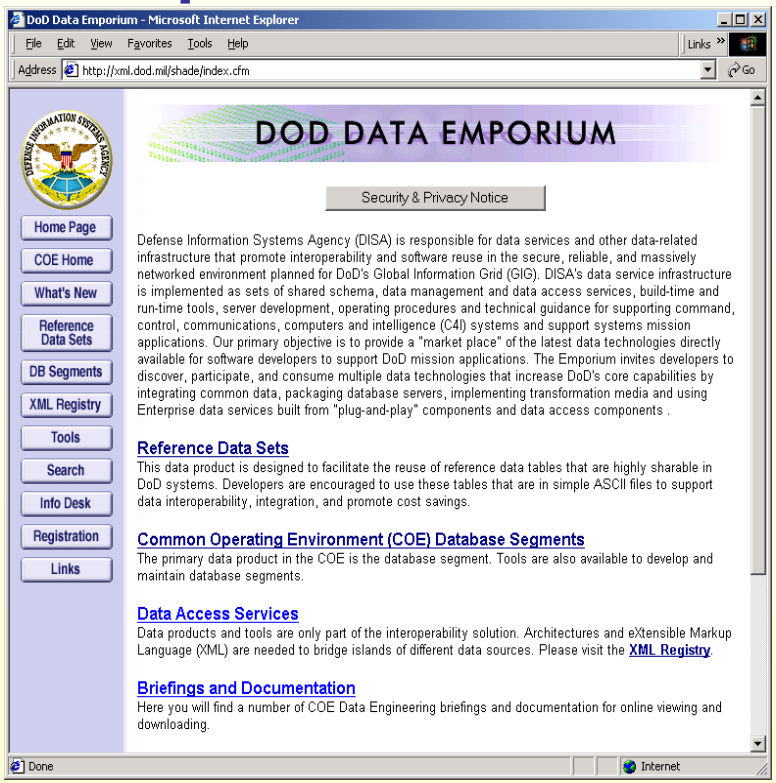
Agenda

- Net-Centric Development (TPPU for Builders)
- What is registered (“posted”) today?
- What Kinds of Transactions and How Many?
- Convergence Efforts
- Lessons-learned

DoD Data Emporium

TPPU for Developers

http://diides.ncr.dis


DoD Data Emporium - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://xml.dod.mil/shade/index.cfm
DOD DATA EMPORIUM
Security & Privacy Notice
Home Page
COE Home
What's New
Reference Data Sets
DB Segments
XML Registry
Tools
Search
Info Desk
Registration
Links
Defense Information Systems Agency (DISA) is responsible for data services and other data-related infrastructure that promote interoperability and software reuse in the secure, reliable, and massively networked environment planned for DoD's Global Information Grid (GIG). DISA's data service infrastructure is implemented as sets of shared schema, data management and data access services, build-time and run-time tools, server development, operating procedures and technical guidance for supporting command, control, communications, computers and intelligence (C4I) systems and support systems mission applications. Our primary objective is to provide a "market place" of the latest data technologies directly available for software developers to support DoD mission applications. The Emporium invites developers to discover, participate, and consume multiple data technologies that increase DoD's core capabilities by integrating common data, packaging database servers, implementing transformation media and using Enterprise data services built from "plug-and-play" components and data access components .
Reference Data Sets
This data product is designed to facilitate the reuse of reference data tables that are highly sharable in DoD systems. Developers are encouraged to use these tables that are in simple ASCII files to support data interoperability, integration, and promote cost savings.
Common Operating Environment (COE) Database Segments
The primary data product in the COE is the database segment. Tools are also available to develop and maintain database segments.
Data Access Services
Data products and tools are only part of the interoperability solution. Architectures and eXtensible Markup Language (XML) are needed to bridge islands of different data sources. Please visit the XML Registry.
Briefings and Documentation
Here you will find a number of COE Data Engineering briefings and documentation for online viewing and downloading.
Done
Internet

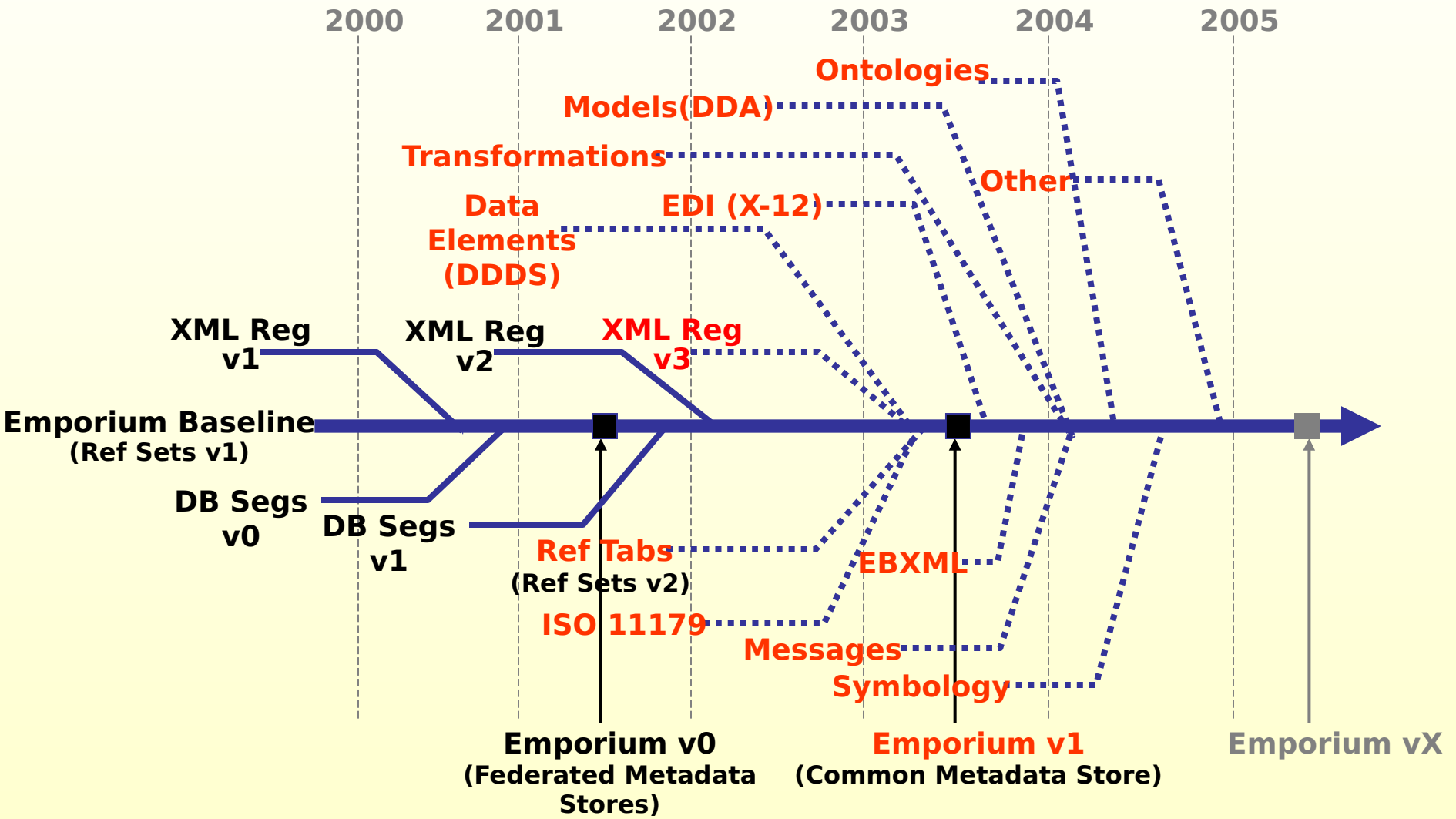
- **"One Stop" Publish & Subscribe for:**
  - Build Time Metadata Registration
  - Pulling Re-usable Data Components
  - Information Community Management
- **Now Vending:**
  - Database Segments
  - Reference Sets
  - Transformations
  - **XML**
  - Data/Metadata Tools
  - More Products soon (e.g., ontologies, translations)

Web-based!

Purpose: visibility and re-use, not standardization through mandate!

Emporium Development Plan

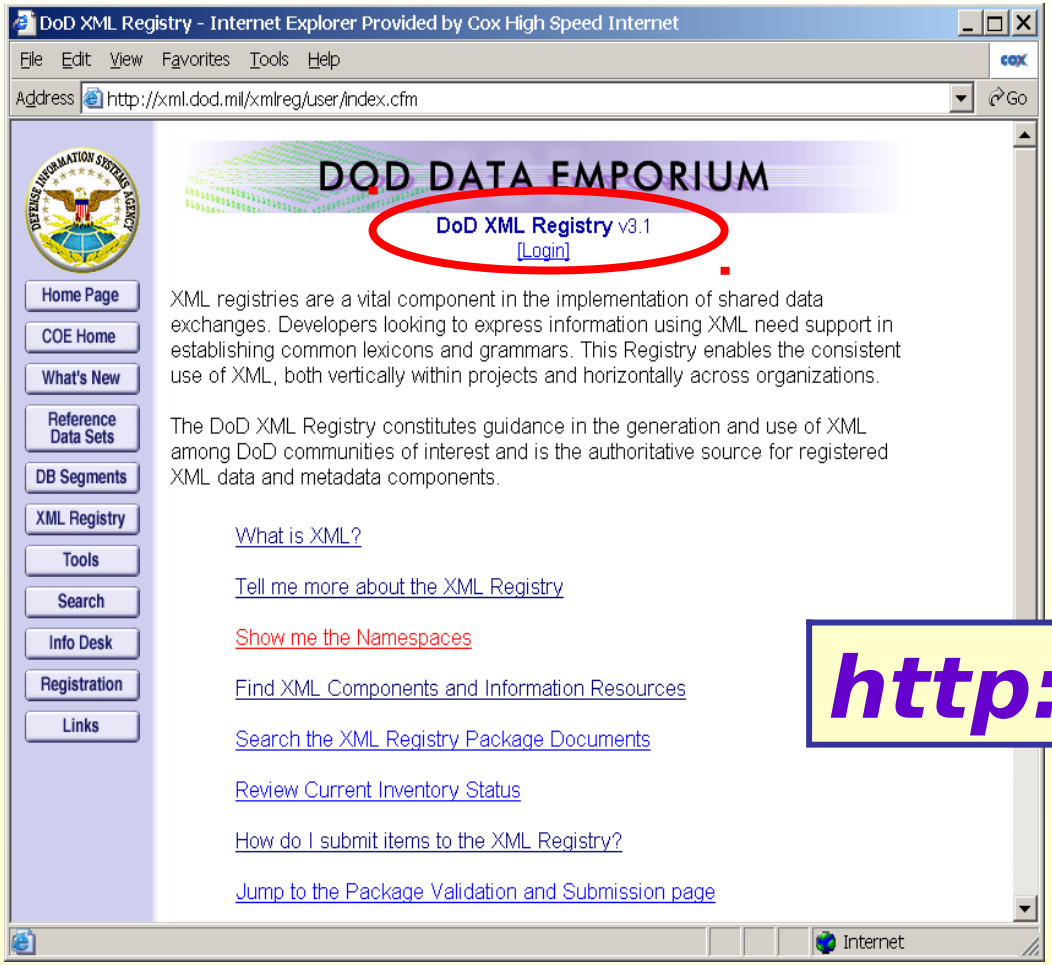
adds progressively more metadata* "galleries" from various resou



*Including valid values and "identifiers" required for linking

DoD XML Registration

Piloting Metadata Management


DoD XML Registry - Internet Explorer Provided by Cox High Speed Internet
File Edit View Favorites Tools Help
Address http://xml.dod.mil/xmlreg/user/index.cfm
DOD DATA EMPORIUM
DoD XML Registry v3.1
[Login]
Home Page
COE Home
What's New
Reference Data Sets
DB Segments
XML Registry
Tools
Search
Info Desk
Registration
Links
XML registries are a vital component in the implementation of shared data exchanges. Developers looking to express information using XML need support in establishing common lexicons and grammars. This Registry enables the consistent use of XML, both vertically within projects and horizontally across organizations.
The DoD XML Registry constitutes guidance in the generation and use of XML among DoD communities of interest and is the authoritative source for registered XML data and metadata components.
What is XML?
Tell me more about the XML Registry
Show me the Namespaces
Find XML Components and Information Resources
Search the XML Registry Package Documents
Review Current Inventory Status
How do I submit items to the XML Registry?
Jump to the Package Validation and Submission page
Internet

- ***Global Net Access***
- ***Pub-Sub Registry***
- ***Business Rules***
- ***Organizations***

http://xml.dod.mil

C: 19 May 1999 - Current Version = 3.1

DoD XML Registry Features
Post – Discover - Pull

- XML component Registration, Visibility, Navigation, and Access,
  - Search/Browse Filters for Discovery & Reuse
  - On-Line Submission Processing
  - Subscription Services
- Communities of Interest Registration and on-line management
- Synchronized Components on Multiple Networks (GIG-wide reach)
- Multiple “Clearinghouse” Feedback Mechanisms
  - *http://xml.dod.mil/xmlreg/user/feedback.cfm*
  - Public XML Venue (Technical exchange)
  - Namespace Managers’ Forum (Governing Body)
- DoD XML Registration Policy signed by ASD-C3I & USD-ATL
- Embryonic Run-Time Service: REST-based API (using http, uri, xml)

http://xml.dod.mil

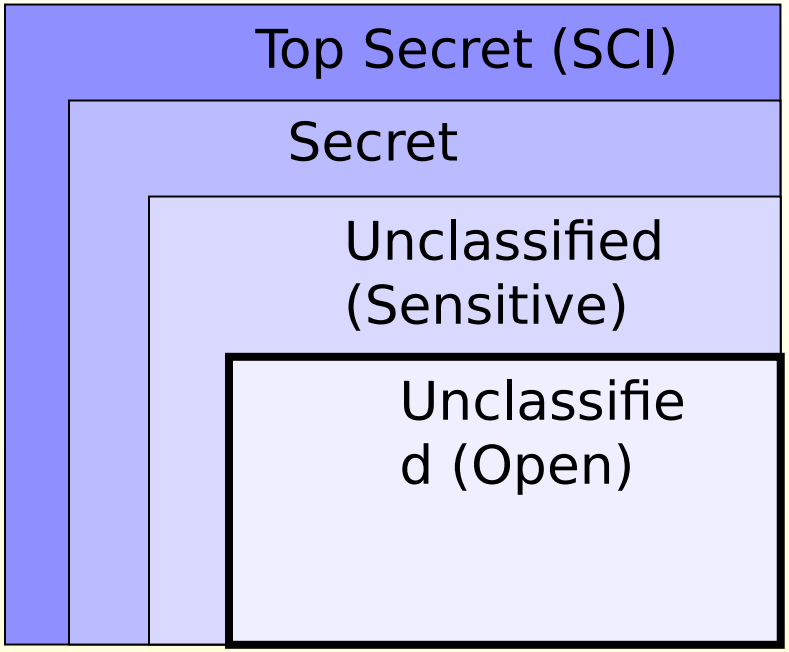
DoD XML Registry

"Posts" XML to every seat on the GIG

Users Discover and Pull XML they are cleared for -

- **Unclassified (Open)**
  - NIPRNET w/Internet Access
  - http://xml.dod.mil/xmlreg
- **Unclassified (Sensitive)**
  - Open Registry contents *plus* "password protected" components
  - NIPRNET with Internet Access
  - http://xml.dod.mil/xmlreg
- **Secret**
  - Unclassified (Sensitive) content *plus* secret components
  - SIPRNET
  - http://diides.ncr.disa.smil.mil
- **Top Secret (SCI)**
  - **Secret content *plus* SCI components**
  - **JWICS**
  - **Expected Dec 02**

NEW!



Synchronized Components on Multiple Networks

XML building blocks available at every keyboard

DoD Policy for XML Registration

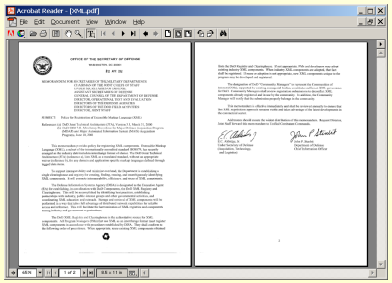
XML Component Registration

ASD C3I/ USD AT&L signed 22 Apr 2002

- Consult DoD Registry before creating new components and reuse existing XML where practical
- Indicate planned use of XML components by formally subscribing to them
- Consult other Registries (e.g., commercial) before inventing new XML
- Register any additional XML or recommend modifications

Community of Interest Namespace Formation

- Formed “as required” *when* someone will agree to manage
- Requirements for new Namespaces staffed with:
  - Existing Namespace Managers
  - Senior Service/Agency engineers
  - Flag Level Review Board

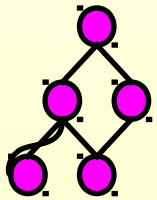


http://xml.dod.mil/xmlreg/user/Documents/XML.PDF

DoD XML Registry

Posting XML Components and Relationships

- Information Resources
  - Document
  - Domain Value Set
  - XML Attribute
  - XML Element
  - XML Sample
  - Schema
  - Schema Data Type
  - Stylesheet
  - Source Code
- Associations
  - Contains
  - IsNewerVersionOf
  - IsConstrainedByDomain
  - DescribedBy
  - IsXMLSpecFor
  - IsQualifiedByAttribut
  - IsDerivedFrom



Key to effective Discovery!

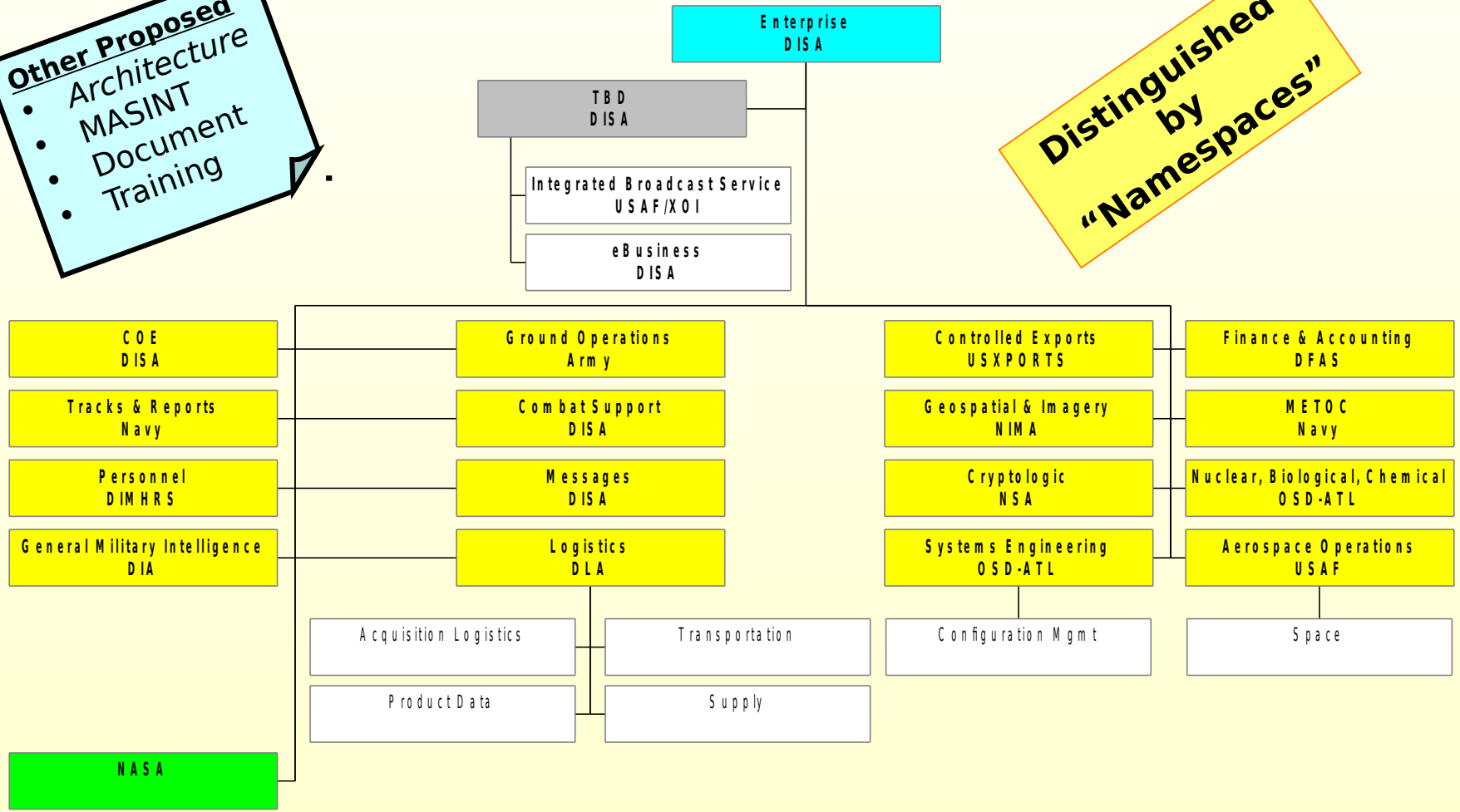
Nodes = Information Resources
Arcs = Associations

DoD XML Registry

Posting Communities of Interest (COIs)

Other Proposed
- Architecture
- MASINT
- Document
- Training

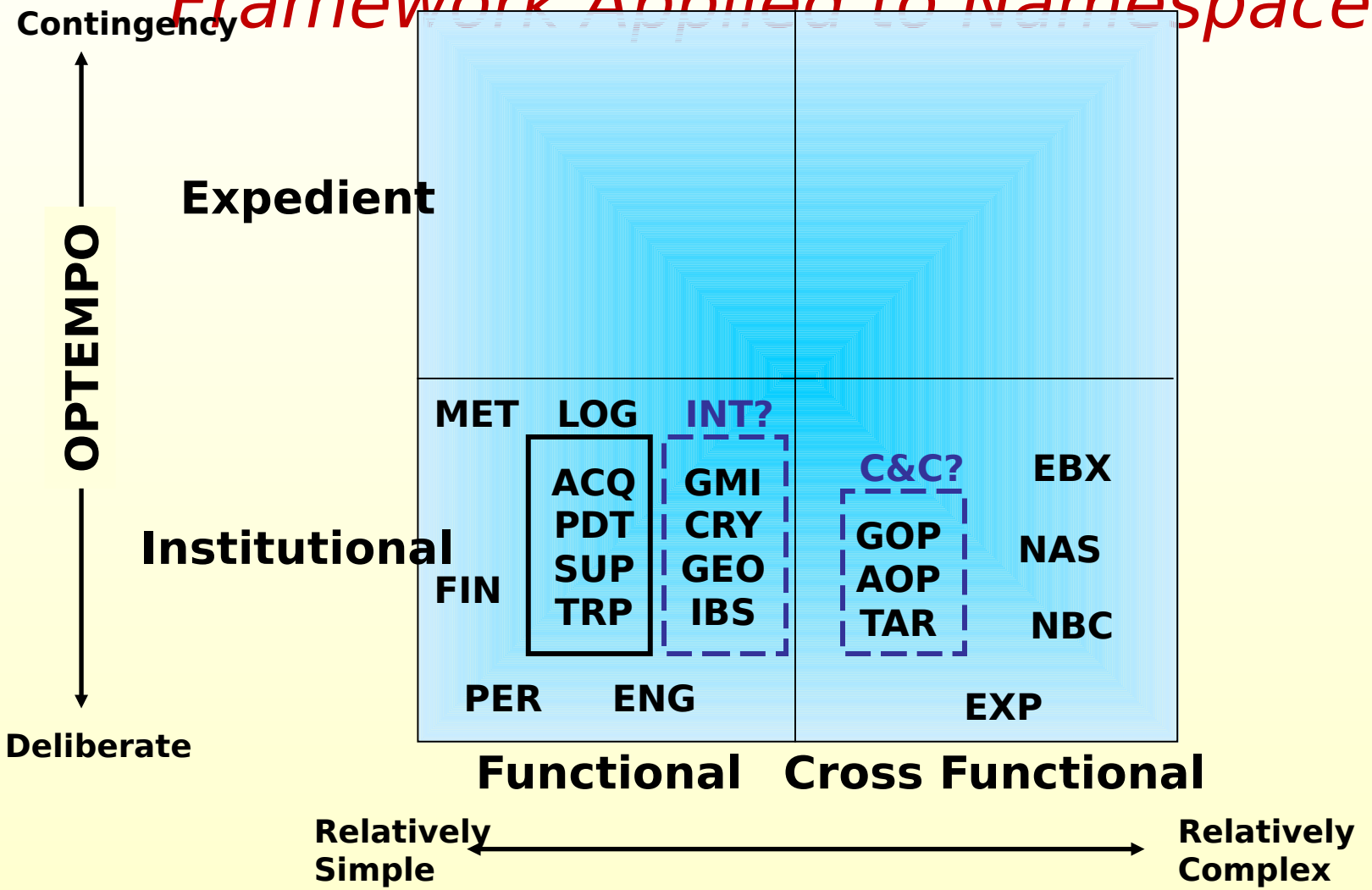
Distinguished by "Namespaces"



Vetting Process required to Establish New COIs

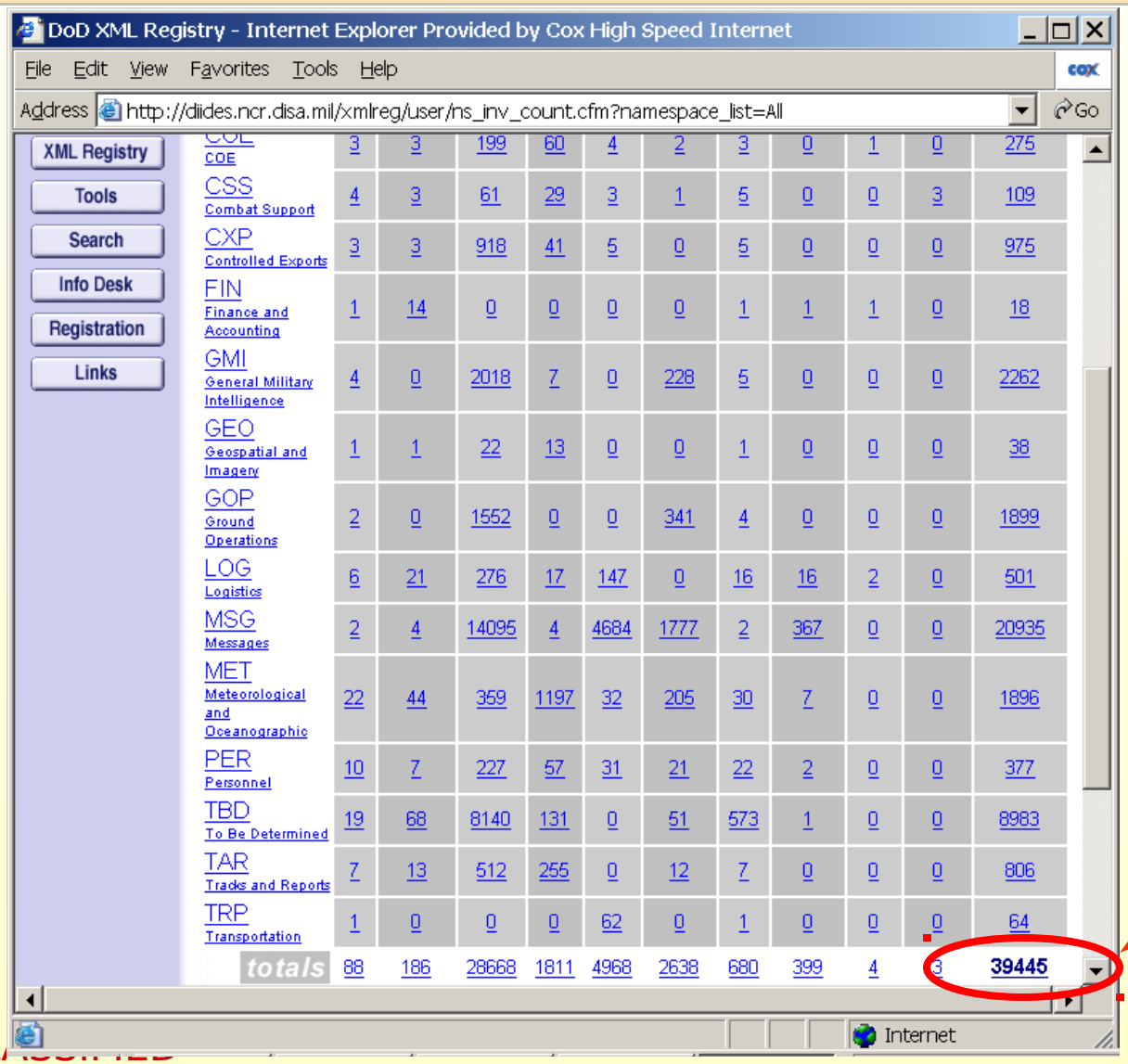
Communities of Interest (COIs)

Framework Applied to Namespaces



DoD XML Registry

Current XML Inventory



COE	3	3	199	60	4	2	3	0	1	0	275
CSS Combat Support	4	3	61	29	3	1	5	0	0	3	109
CXP Controlled Exports	3	3	918	41	5	0	5	0	0	0	975
FIN Finance and Accounting	1	14	0	0	0	0	1	1	1	0	18
GMI General Military Intelligence	4	0	2018	7	0	228	5	0	0	0	2262
GEO Geospatial and Imagery	1	1	22	13	0	0	1	0	0	0	38
GOP Ground Operations	2	0	1552	0	0	341	4	0	0	0	1899
LOG Logistics	6	21	276	17	147	0	16	16	2	0	501
MSG Messages	2	4	14095	4	4684	1777	2	367	0	0	20935
MET Meteorological and Oceanographic	22	44	359	1197	32	205	30	7	0	0	1896
PER Personnel	10	7	227	57	31	21	22	2	0	0	377
TBD To Be Determined	19	68	8140	131	0	51	573	1	0	0	8983
TAR Tracks and Reports	7	13	512	255	0	12	7	0	0	0	806
TRP Transportation	1	0	0	0	62	0	1	0	0	0	64
totals	88	186	28668	1811	4968	2638	680	399	4	8	39445

Other Popular Emporium Products

Ref Sets = 1858

DB Segments = 21

XML = 39,445

DoD XML Registry

Customer Service Transactions

- ’02 Emporium “hits” = over 50K (200+/day)
- Clearinghouse Function
  - 50-60 Q&A “Emporium Test Track” transactions/month
- Public Interest
  - About 700 links to DOD Data Emporium/XML Registry
- XML and other Data Component Re-use
  - Army Intelligence Data Integration
  - GCCS-I3 XML Target Folders
  - JMPS Intelligence Vocabulary
  - Ground Moving Target Indicator (Tracks)
  - 1621 Database Segment downloads
  - 13,261 Reference Set downloads

Convergence Task Forces

Addressing Specific Joint Data Issues

- **TBD Namespace Consolidation – DISA & NSMF**
- **Delivery Address Pilot – DFAS, LOG & USPS**
- **Data Transformation Pilot – DISA & NIMA**
- **XML Conventions Proposal – DISA & Service PEOs**
- **Enterprise Discovery Metadata – C3I, DISA & IC***

*on NCES C2&I Pilot Critical Path

Lessons-Learned

- Registration (posting) and Access (Pulling) must be simple and efficient – capability v. simplicity hard to balance
  - Developers also want Run-Time access for applications
- Robust Discovery services are required
- Convergence process needs to be codified
  - Implementation deadlines are key drivers
- Better metrics required
  - Make subscription mandatory?
- Anticipated Benefits:
  - Cost, Schedule and Interoperability improvements
  - Requirements, convergence opportunities and players more visible
- Unanticipated Benefits:
  - Metadata Quality Improvements
  - Clearinghouse more active than expected

Emerging DoD Data Strategy

ASD C3I Principles

- "Post" Data as early and as widely as possible
- Empower Users to pull *whatever* they want
- Clearly identify Data maintenance authorities
- Decompose Data Management
  - Communities of Interest (COIs)
  - Build-Time *and* Run-Time
- Exploit Market Forces
  - Visibility (Allows data producers and consumers to find each other)
  - Supply and Demand ("Incentivizes" timely, high quality production)
  - Market Metrics (Allows adjustments for investment to follow value)

TASK - POST - PROCESS - USE (TPPU) .....

Backup

UNCLASSIFIED

From Build-Time to Run-Time
Composing NCES-based Architectures